

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1-28. (canceled)

29. (new) An isolated protein having glucosyltransferase activity comprising an amino acid sequence, which exhibits at least 95% amino acid homology, as determined by BLAST algorithm, with amino acid sequence 972-1781 of SEQ ID No. 2.

30. (new) The isolated protein according to claim 29, comprising an amino acid sequence of at least 200 amino acids exhibiting at least 98% amino acid homology with amino acid sequence 972-1514 of SEQ ID No. 2.

31. (new) The isolated protein according to claim 29, which exhibits at least 98% amino acid homology with amino acid sequence 972-1514 of SEQ ID No. 2.

32. (new) The isolated protein according to claim 29, comprising an amino acid sequence of at least 100 amino acids exhibiting at least 98% amino acid homology with amino acid sequence 1515-1781 of SEQ ID No. 2.

33. (new) The isolated protein according to claim 32, which exhibits at least 98% amino acid homology with amino acid sequence 1515-1781 of SEQ ID No. 2.

34. (new) The protein according to claim 29, wherein said protein comprises amino acids 972-1781 of SEQ ID No. 2.

35. (new) The isolated protein according to claim 29, comprising at least one of the amino acids Pro-1026, Ile-1029, Met-1034, Asn-1035, Ser-1136, Ala-1143, Ile-1168, Leu-1223, Ala-1413, Val-1418, Ala-1428, Leu-1442 in the same relative position as the amino acids of the amino acid sequence of SEQ ID No. 2.

36. (new) The isolated protein according to claim 29 wherein, in the presence of sucrose, produces a glucan having 38-48% 4-linked anhydroglucose units, 17-28% 6-linked anhydroglucose units, and 7-20% 4,6-linked anhydroglucose units.

37. (new) The isolated protein according to claim 29, wherein said protein is a recombinant protein.

38. (new) The isolated protein according to claim 29, which exhibits at least 96% amino acid homology with amino acid sequence 972-1781 of SEQ ID No. 2.

39. (new) The isolated protein according to claim 29, which exhibits at least 97% amino acid homology with amino acid sequence 972-1781 of SEQ ID No. 2.

40. (new) An isolated protein having glucosyltransferase activity comprising an amino acid sequence, which exhibits at least 95% amino acid homology, as determined by BLAST algorithm, with amino acid sequence 531-1781 of SEQ ID No. 2.

41. (new) The isolated protein according to claim 40, comprising an amino acid sequence which exhibits at least 96% amino acid homology with amino acid sequence 531-1781 of SEQ ID No. 2.

42. (new) The isolated protein according to claim 40, comprising an amino acid sequence which exhibits at least 97% amino acid homology with amino acid sequence 531-1781 of SEQ ID No. 2.

43. (new) The isolated protein according to claim 40, comprising at least one of the amino acids Pro-1026, Ile-1029, Met-1034, Asn-1035, Ser-1136, Ala-1143, Ile-1168, Leu-1223, Ala-1413, Val-1418, Ala-1428, Leu-1442 in the same relative position as amino acids of the amino acid sequence of SEQ ID No. 2.

44. (new) The isolated protein according to claim 40 wherein, in the presence of sucrose, produces a glucan having 38-48% 4-linked anhydroglucose units, 17-28% 6-linked anhydroglucose units, and 7-20% 4,6-linked anhydroglucose units.

45. (new) The isolated protein according to claim 40, wherein said protein is a recombinant protein.

46. (new) An isolated protein having glucosyltransferase activity comprising an amino acid sequence 972-1781 of SEQ ID NO: 2.

47. (new) An isolated protein comprising an amino acid sequence 531-1781 of SEQ ID NO: 2.

48. (new) The isolated protein according to claim 47, wherein in the presence of sucrose, a glucan is produced having 38-48% 4-linked anhydroglucose units, 17-28% 6-linked anhydroglucose units, and 7-20% 4,6-linked anhydroglucose units.